

Applic. No.: 10/806,514
Amdt. Dated June 8, 2006
Reply to Office action of February 9, 2006

REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 1-2 and 4-18 remain in the application. Claims 1 and 9 have been amended. Claim 3 has been cancelled. Claims 9-18 have been withdrawn.

In item 4 on pages 2-3 of the above-mentioned Office action, claims 1 and 4-5 have been rejected as being anticipated by Chuoku (GB 1 548 046) under 35 U.S.C. § 102(b).

In item 5 on pages 4-5 of the above-mentioned Office action, claim 3 has been rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Chuoku.

In item 6 on pages 5-6 of the above-mentioned Office action, claims 2 and 6 have been rejected as being unpatentable over Chuoku in view of Handbook of Carbon, Graphite, Diamond and Fullerenes - Properties, Processing and Applications (see, chapter 8, Table 8.6, page 191 - hereinafter "Handbook") under 35 U.S.C. § 103(a).

Applic. No.: 10/806,514
Amdt. Dated June 8, 2006
Reply to Office action of February 9, 2006

In item 7 on page 6 of the above-mentioned Office action, claim 8 has been rejected as being unpatentable over Chuoku in view of Lewis et al. (US 5,413,738) under 35 U.S.C. § 103 (a).

The rejection has been noted and claim 1 has been amended in an effort to even more clearly define the invention of the instant application. Support for the changes is found on page 15, line 22 to page 16, line 9 of the specification.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 1 calls for, inter alia:

A connecting piece for carbon material electrodes, comprising: a connecting piece body, carbon fibers in said connecting piece body, said carbon fibers having oxidatively activated surfaces, and a coating added to said carbon fibers, said coating being carbonized as a carbonization product of a coating material selected from the group consisting of wax, pitch, natural resins, thermoplastic polymers, and thermosetting polymers, said connecting piece body having a linear coefficient of thermal expansion of from -0.5 to +0.1 $\mu\text{m}/(\text{K}\cdot\text{m})$ in a direction parallel to a lateral surface thereof, and from 1.7 to 2.1 $\mu\text{m}/(\text{K}\cdot\text{m})$ in a normal plane orthogonal thereto.

The main difference between the invention of the instant application and the prior art as represented by Chouku have already been discussed in the previous response. Chouku uses PANOX fibers for forming his electrode material. By treating this material during the baking step, the PANOX fibers will

Applic. No.: 10/806,514
Amdt. Dated June 8, 2006
Reply to Office action of February 9, 2006

convert to carbon fibers. However, Applicants do not agree with the Examiner's opinion regarding transforming the surface of the formed fibers in the material and the effect to the resulting product.

As the example 5 in table 3 shows, Chouku reaches a bending strength ($290 \text{ Kg/cm}^2 = 28.45 \text{ MPa}$) with a higher fiber content (3 weight%) (see page 6 of Chouku) compared to the example 2 of the invention of the instant application in which a bending strength of 28.5 MPa was found by addition of 2.3 weight% oxidation treated and coated carbon fibers (see pages 17-18 of the specification of the instant application). The main difference and the effect of the invention of the instant application are shown by the fact that Chouku reaches only a minor change in the coefficient of thermal expansion. The coefficient of thermal expansion of Chouku's products, which lays in the range of normal graphite electrode material, changes in the range of 10 to 20 %, whereas the products according to the invention of the instant application show a significant improvement in the range of more than 55% ($0.06 \cdot 10^{-6} \text{ K.m}$ compared to $0.14 \cdot 10^{-6} \text{ K.m}$ for the material without fibers). This result is clearly unexpected.

Applic. No.: 10/806,514
Amdt. Dated June 8, 2006
Reply to Office action of February 9, 2006

Claim 1 is, therefore, believed to be patentable over Chouku and since all of the dependent claims are ultimately dependent on claim 1, they are believed to be patentable as well.

In view of the foregoing, reconsideration and allowance of claims 1-2 and 4-8 are solicited. Rejoinder of method claims 9-18 is requested upon allowance of product claims under MPEP 821.04 ("if applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims which depend from or otherwise include all the limitations of the allowable product claim will be rejoined").

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate a telephone call so that, if possible, patentable language can be worked out. In the alternative, the entry of the amendment is requested as it is believed to place the application in better condition for appeal, without requiring extension of the field of search.


Petition for extension is herewith made. The extension fee for response within a period of one month pursuant to Section 1.136(a) in the amount of \$120.00 in accordance with Section 1.17 is enclosed herewith.

Applic. No.: 10/806,514
Amdt. Dated June 8, 2006
Reply to Office action of February 9, 2006

Please charge any fees which might be due with respect to 37
CFR Sections 1.16 and 1.17 to the Deposit Account of Lerner
Greenberg Stemer LLP, No. 12-1099.

Respectfully submitted,

Yonghong Chen
Reg. No. 56,150


For Applicants

YC

June 8, 2006

Lerner Greenberg Stemer LLP
Post Office Box 2480
Hollywood, FL 33022-2480
Tel: (954) 925-1100
Fax: (954) 925-1101